

What is claimed is:

1. An isolated nucleic acid molecule having a nucleic acid sequence consisting essentially of that set forth in SEQ ID NO:1.

2. An isolated nucleic acid molecule encoding an amino acid sequence consisting essentially of that set forth in SEQ ID NO:2.

3. An isolated nucleic acid molecule comprising a polynucleotide encoding a polypeptide wherein, except for at least one conservative amino acid substitution, said polypeptide has an amino acid sequence selected from the group consisting of:

(a) amino acids from about 1 to about 1297 of the amino acid sequence set forth in SEQ ID NO:2; and

(b) amino acids from about 2 to about 1297 of the amino acid sequence set forth in SEQ ID NO:2.

4. The isolated nucleic acid molecule of claim 1, which is DNA.

5. The isolated nucleic acid molecule of claim 2, which is DNA.

6. The isolated nucleic acid molecule of claim 3, which is DNA

7. A method of making a recombinant vector comprising inserting a nucleic acid molecule of any of claims 1-6 into a vector in operable linkage to a promoter.

8. A recombinant vector produced by the method of claim 7.

9. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 8 into a host cell.

10. A recombinant host cell produced by the method of claim 9.

11. A recombinant method of producing a polypeptide, comprising culturing the recombinant host cell of claim 10 under conditions such that said polypeptide is expressed and recovering said polypeptide.

12. An isolated polypeptide comprising an amino acid sequence consisting essentially of that set forth in SEQ ID NO:2.

13. An isolated polypeptide comprising amino acids at least 95% identical to amino acids selected from the group consisting of:

(a) amino acids from about 1 to about 1297 of the amino acid sequence contained set forth in SEQ ID NO:2; and

(b) amino acids from about 2 to about 1297 of the open amino acid sequence contained set forth in SEQ ID NO:2.

14. An isolated polypeptide wherein, except for at least one conservative amino acid substitution, said polypeptide has an amino acid sequence selected from the group consisting of:

(a) amino acids from about 1 to about 1297 of the amino acid sequence in set forth set forth in SEQ ID NO:2; and amino acids from about 2 to about 1297 of the amino acid sequence set forth in SEQ ID NO:2.

(b) amino acids from about 2 to about 1297 of the amino acid sequence set forth in SEQ ID NO:2.

15. An isolated polypeptide comprising amino acids selected from the group consisting of:

(a) amino acids from about 1 to about 1297 of the amino acid sequence set forth in SEQ ID NO:2; and

(b) amino acids from about 2 to 1297 of the amino acid sequence set forth in SEQ ID NO:2.

16. An epitope-bearing portion of the polypeptide comprising an amino acid sequence as set forth in SEQ ID NO:2.

17. The epitope-bearing portion of claim 16, which comprises between about 5 to about 30 contiguous amino acids of the amino acid sequence set forth in SEQ ID NO:2.

18. The epitope-bearing portion of claim 17, which comprises about 10 to about 15 contiguous amino acids of the amino acid sequence set forth in SEQ ID NO:2.

19. An isolated antibody that binds specifically to the polypeptide of claim 15.
20. A monoclonal antibody according to claim 19.
21. A method of increasing survival or proliferation of a cell, comprising inhibiting expression of SCC-112 in said mammalian cell.
22. The method of claim 21, wherein said mammalian cell is transformed with a vector encoding an antisense oligonucleotide corresponding to the sequence set forth in SEQ ID NO:1.
23. An antisense oligonucleotide that inhibits the expression of SCC-112 in a mammalian cell.
24. The antisense oligonucleotide of claim 23, which is contained in a liposomal formulation.
25. A method of treating disease cells characterized by SCC-112 overexpression by administration to said cells of an antisense oligonucleotide, ribozyme, a small molecule, or small interfering RNA that inhibits SCC-112 expression.
26. A method of treating disease cells characterized by SCC-112 overexpression comprising administering to said cells an antibody that specifically binds SCC-112 protein of about 150 kDa or its mutant form of about 65 kDa shown in Figures 4 and 7.
27. A method of detecting cancer characterized by SCC-112 mRNA underexpression comprising detecting the levels of SCC-112 mRNA expression and correlating said level of expression to the presence or absence of cancer.
28. The method of claim 27 which is effected by using a cDNA that hybridizes SCC-112 and mRNA.
29. A method of detecting cancer characterized by SCC-112 underexpression comprising detecting the levels of SCC-112 about 150 kDa and or mutant SCC-112 about 65 kDa expression and correlating said level of expression to the presence or absence of cancer.

30. The method of claim 29 which is effected by using an antibody that specifically binds SCC-112 and or mutant SCC-112.

31. A method of inducing apoptosis in cancer cells of a patient comprising administering SCC-112 cDNA that enhances SCC-112 expression.

32. A method of inducing apoptosis in cancer cells of a patient comprising administering SCC-112 protein or SCC-112 peptide.

33. A method of treating cancer by a combination of SCC-112 cDNA or protein and chemotherapy.

34. A method of treating cancer by a combination of SCC-112 cDNA or protein and radiation therapy.

35. A method of treating cancer comprising administering to a patient combination of SCC-112 cDNA or protein and hormone therapy or an inhibitor of a cell cycle-related/growth promoting biomolecule.

36. A method for inhibiting cancer cell proliferation and/or metastasis in a cancer patient comprising administering a cDNA that induces SCC-112 expression.

37. A method for inhibiting cancer cell proliferation and/or metastasis in a cancer patient comprising administering a protein or peptide that induces SCC-112 expression.

38. The method of any of claims 31-37, wherein said cancer is affected at chromosome locus 4p14.

39. The method of any of claims 31-38, wherein said cancer is breast cancer, kidney cancer, bladder cancer, pancreatic cancer, colon cancer, or squamous cell carcinoma.

40. A method for treating a patient suffering from a degenerative disease or disorder selected from the group consisting of global and focal ischemic and hemorrhagic stroke, head trauma, spinal cord injury, hypoxia-induced nerve cell damage, nerve cell damage caused by cardiac arrest or neonatal distress, epilepsy, anxiety, diabetes mellitus, multiple sclerosis, phantom limb pain, causalgia, neuralgias, herpes zoster, spinal cord lesions, hyper algesia,

allodynia, Alzheimer's Disease, Huntington's disease, and Parkinson's disease, multiple sclerosis, or amyotrophic lateral sclerosis, wherein said treatment comprises administering to the patient a therapeutically effective amount of SCC-112 DNA, SCC-112 protein; an agent that enhances the expression of the SCC-112 gene or an agent that enhances the production of the SCC-112 protein.

41. An antibody generated against the polypeptide having an amino acid sequence as set forth in SEQ ID NO:3.